

1           4.     The method as set forth in claim 1, wherein the mixture of  
2 plastics is subjected to an analysis for material degradation, and the plastics  
3 contained in the mixture of plastics are sorted and separated according to colours if  
4 the analysis establishes that a predetermined degree of degradation has not been  
5 exceeded.

1           5.     The method as set forth in claim 1, wherein plastics (LDPE,  
2 PP) with different melting temperatures, which are obtained as a mixture by means  
3 of or after separation according to colours, are separated thermally by means of a  
4 thermal scanner

1           6.     The method as set forth in claim 5, wherein the thermal  
2 scanner includes a conveying means comprising a perforated support on which the  
3 plastics (LDPE, PP) to be thermally separated are transported and heated to a  
4 temperature at which at least one of the plastics (LDPE, PP) is in a free-flowing  
5 and at least one other of the plastics (LDPE, PP) is in a solid state of aggregation.

1           7.     The method as set forth in claim 6, wherein a plastic (LDPE)  
2 which has been transferred to a free-flowing state of aggregation by being heated is  
3 collected in a cooling bath to be re-solidified.

1           8.     The method as set forth in claim 1, wherein  
2                 the mixture of plastics, having been separated from the non-plastics  
3 contained in a mixture of material, is washed with a washing fluid, and the washing  
4 fluid - together with washed out organic material contained in it - is fed to a bio gas  
5 power station comprising a bio gas generator which generates methane gas from the  
6 organic material by means of micro-organisms;

7                 the methane gas is combusted in a gas turbine; and

8                 a combustion gas from the gas turbine is used to produce processing  
9 energy for sorting and separating the plastics.

1           9.     A plant for recycling plastics and preferably also for  
2 recycling other materials contained in a mixture of refuse material, said plant  
3 including:

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- 4 a) a first type-separating means with which plastics and  
5 non-plastics are separated;
- 6 b) a second type-separating means with which the plastics  
7 separated from the non-plastics are separated according to  
8 types of plastic;

9 wherein

- 10 c) the plastics from the first type-separating means are  
11 transported to a colour separating means in which the plastics  
12 are sorted and separated according to colours and transported  
13 in fractions of colours to the second type-separating means.

1 10. The plant as set forth in claim 9, wherein the colour  
2 separating means comprises a carrousel extractor in which the fractions of plastics,  
3 sorted according to colours, are individually subjected to extraction using a hot  
4 extraction medium.

1 11. The plant as set forth claim 9, wherein the second  
2 type-separating means comprises a thermal scanner which comprises a conveying  
3 means with a perforated support for plastics and preferably a cooling means  
4 arranged underneath the perforated support, in a hot gas tunnel.

1 12. The plant as set forth in claim 9 further comprising a bio gas  
2 power station with a bio gas generator topped by at least one gas turbine, wherein:

3 the bio gas generator generates methane gas, by means of  
4 micro-organisms, from the organic material removed from the mixture of material  
5 in the plant;

6 the methane gas is combusted in the gas turbine; and

7 a combustion gas from the gas turbine is used to produce processing  
8 energy and/or the gas turbine is used to produce electrical energy for the plant.

1 13. The plant as set forth in claim 9 further comprising a chip  
2 and fibre recycling means with which re-processible chips and fibres are obtained in

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3 a multi-stage chemico-thermo-mechanical method from wood refuse separated out  
4 from the mixture of material in the plant.

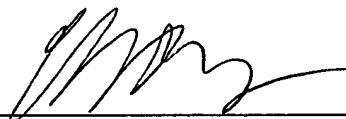
1 14. The plant as set forth in claim 9, wherein

2 the plastics are subjected to an analysis for material degradation by  
3 means of an analysing means; and

4 plastics are only sorted and separated according to colours if a  
5 material degradation of the plastics does not exceed a predetermined degree of  
6 degradation, and where they do exceed it, are preferably comminuted into plastic  
7 particles to be used as fuel.

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Respectfully submitted,



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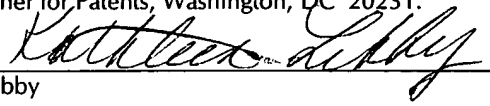
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